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ABSTRACT

This report presents the results of a survey conducted to analyze the factors constituting information records management in business offices located in Kentucky, Ohio, and West Virginia. Seventy-one percent of 142 randomly selected companies of various sizes responded to mailed questionnaires, and two companies were selected for on-site visits. The survey findings are discussed in five sections: (1) storage and retrieval hardware and software media, (2) in-house microprocessing, (3) management of information, (4) electronic funds transfer, and (5) reprographics. Lists of conclusions and recommendations follow descriptions of the two site visits, and an appendix provides a copy of the questionnaire form, copies of follow-up letters, and a table showing storage equipment used for paper records. Additional tables display breakdowns of the data collected. (FM)

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AN ASSESSMENT OF METHODS, PROCEDURES, AND EQUIPMENT USED FOR INFORMATION RECORDS MANAGEMENT

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Completed By

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INTRODUCTION AND PROBLEM

This research project is the result of a proposal funded by the Kentucky Bureau of Vocational Education to make an assessment of the state of the art in records management in the Commonwealth of Kentucky and in two cities bordering Kentucky--Cincinnati, Ohio and Huntington, West Virginia. To better understand records management in today's offices and in the decade to follow, Figure 1 below shows how several office functions may combine to create a total information records management system.

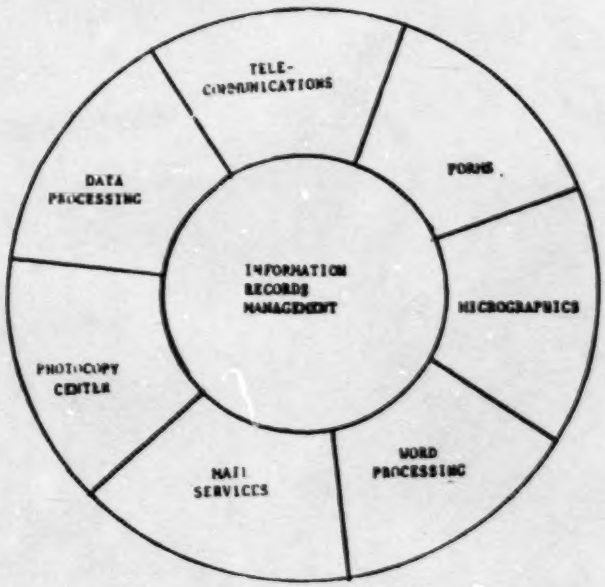


Figure 1 Schematic of Components of Information Records Management

Electronic data processing and electronic typewriters/wordprocessors have had a tremendous effect on the ability to produce massive amounts of

information at phenomenal speeds. To cope with this increased production, various technologies for information handling have evolved. CRTs (cathode ray tubes) are used to retrieve on-line information stored on magnetic media. Micrographic technology represents still another technique for handling information and encompasses the total process of reproducing regular-size records into microimages (rollfilm and microfiche). Cameras of various dimensions, as well as COM (Computer Output Microfilm) units, operate to produce microforms. COM is linked directly (on line) with a computer as a high-speed output film printer.

Individual organizations that create or receive information must also be responsible to store, retrieve, duplicate, transfer, and dispose of the ever-increasing amount of printed information. The methods, procedures, and problems may differ with each organization.

Since little data have been collected from business firms located in Kentucky and the surrounding area to determine the methods and procedures that are presently used for managing records or information, and since the new technologies make possible storage and retrieval of data in only a few seconds, the need existed for an assessment that would provide statistics showing the current status of records handling. Subsequently, teachers and curriculum planners may have a more realistic base from which to make decisions that relate to content needed in courses that cover topics relating to records management. The study, then, examined questions about: (1) storage and retrieval hardware and software media, (2) microimage processing equipment, (3) management of records, (4) electronic funds transfer, and (5) reprographics.

Definition of Terms

To enhance interpretation, the following terms are defined for the reader:

1. Automated Indexing and Titling System--A microprocessing technique that makes possible fast storage and retrieval of microforms. Titling and indexing are also needed for automatic retrieval of data from magnetic media.
2. Cartridge--A plastic or metal carrier that stores approximately 20 or more microforms. These microforms have usually been processed for automatic fast retrieval.
3. CRT (Cathode Ray Tube)--A video display terminal used for purposes of communications and inquiry.
4. Computer-Based Terminal--Via CRTs, direct inquiry can be made into data bases.
5. Electronic Funds Transfer--A method by which financial exchanges take place without the use of cash or checks.
6. Facsimile--A telecommunication procedure by which an exact duplicate may be transmitted between two distant points.
7. In-house Microprocessing--On-the-premise and independently controlled generation and processing of microimages (microforms). The film may be generated via cameras or COM (Computer Output Microfilm) recorders.
8. Jacketnotches--Indentations on the microfiche jacket that make possible computer-assisted retrieval (CAR).
9. Lateral File Cabinets--Cabinets that open from the shallow end rather than pull out from the long end.

10. Microform--An all-encompassing term referring either to microfilm or microfiche.

11. Software--A term used to describe the programs which enable the hardware to function.

Limitations

This study is limited to the ability of the respondents to interpret the questionnaire and the ability of the researchers to analyze the responses. Further, some ambiguity may exist in identifying sizes of companies by the number of employees employed at each company location. For instance, a bank may have shown the number to include employees in all branch offices, while others may have reported only one branch establishment, or only the parent institution. Conclusions drawn from this study may reflect nationwide trends for information records management, but caution must be exercised in making generalizations beyond the region surveyed.

PROCEDURES

This study was an examination and analysis of the multiple factors that constitute information records management in offices located in the Commonwealth of Kentucky, Cincinnati, Ohio and Huntington, West Virginia. The procedures used for this descriptive study were selection of participants, development of questionnaire, pilot testing of the procedures, collection of survey data, and analysis of the data.

Selection of Participants

The data were collected from companies listed in the Dun and Bradstreet Million Dollar Directory, 1979. The Million Dollar Directory lists all companies with a minimum net worth of $1,000,000. Companies

selected for this study were located in Kentucky and in two adjacent cities. A random sample was made by choosing every eighth name from the Directory. Company sizes varied from 2 to 2600 employees; therefore, the number and sizes of companies are categorized into four groups that are shown in Table 1.

Table 1

Size of Companies Represented

Number of Employees	Companies
0 - 25 (Small)	34
26 - 50 (Medium)	28
51 - 100 (Medium - Large)	18
over 100 (Large)	21
Total Companies	101

Development of Questionnaire

Using information gathered from an earlier study "Developing Trends in Office Technology and Career Paths as Related to the Office of the Future"[1] and information gleaned from a review of the literature relating to the management of information, a preliminary questionnaire was constructed. To establish content validity, the questionnaire was reviewed by two colleagues at Morehead State University. Further, a pilot study was conducted to test the instrument for clarity of questions and

[1]Anna Marie Burford, "Developing Trends in Office Technology and Career Paths as Related to the Office of the Future" (Doctoral dissertation, The Ohio State University, 1979), Microfilm No. 7915961.

willingness of companies and participants to provide the information requested. (A sample of the survey instrument is found in Appendix A.)

Pilot Survey

On January 9, 1980, a pilot survey was mailed to 50 companies randomly selected (every 20th listing) from the Million Dollar Directory. Forty-six percent of the questionnaires were returned within two weeks. As a result of the pilot study, a few minor changes were incorporated into the structure of the final questionnaire.

Collection of Survey Data

Following the initial survey that began early in February, two follow-up mailings were conducted approximately three weeks apart. (See Appendix B.) In order to secure additional returns and to better understand the characteristics of the nonrespondents, an additional 15 survey forms were completed by telephone. The total returns, then, represent 101 of the possible 142 questionnaires, or 71 percent. Two questionnaires were not usable and are not figured in these totals. After tabulating data collected from mailed returns and telephone surveys separately, the results reflected enough singularity to be processed together. From information received via telephone calls, the most apparent reason for nonreturns seemed to be the fact that the questionnaires were not directed to the individuals who were actually responsible for the handling of records, and a few statistics suggested that nonrespondents may be users of equipment with fewer of the automated features; however, predictions for methods and procedures to be used in 1981 did not differ from those computed for the other 86 respondents. All data were collected between

January and April, 1980. In addition to the data collected from questionnaires, on-site observations were made by the researchers during May, 1980, to learn about procedures, equipment, and facilities used for information handling at The Louisville Bedding Company and Liberty National Bank, Louisville, Kentucky.

Analysis of Data

Frequency tabulations and percentage amounts were tabulated for each survey question pertaining to storage and retrieval systems, software media, processing equipment, management of records, electronic funds transfer, and reproducing methods. Data relating to job titles were summarized. Additionally, the two on-site inspections of company facilities, procedures, and methods are described in detail.

ANALYSIS AND INTERPRETATION OF DATA

The results of surveys received from companies located in Kentucky; Cincinnati, Ohio; and Huntington, West Virginia, about information records management are reported in five sections: (1) storage and retrieval hardware and software media, (2) in-house microprocessing, (3) management of information, (4) electronic funds transfer, and (5) reprographics. A summary giving details of the on-site observations is also reported for each of the business firms visited by the investigators.

Storage and Retrieval Hardware/Software

Paper Storage

Paper continues to be stored in a variety of storage cabinets/units. While a high number of respondents (89 percent) continue to use four- and

five-drawer vertical file units, 35 percent of the companies are also using lateral file storage. Since lateral file cabinets were rarely seen before the 1970's, this number seems to represent considerable change in the style of cabinets and also to reflect the aesthetic changes in office design during the decade of the 70's. A majority (58 percent) of the companies also have two-drawer file cabinets, which implies modular furniture design--a further confirmation of environmental changes. Open/shut binders were used by 58 percent of the business firms and open-space shelves were used by 48 percent. A complete display of the data is given in Appendix C.

Microfilm Storage

One-half of the respondents (51 percent) reported the use of microforms. Microfiche was the most popular microimage format. Table 2 shows the storage media as well as a break-down by size of companies.

Table 2

Microform Media Utilized*

Company Size		Reel Microfilm	Microfilm Cartridge/ Cassettes	Micro-fiche	Microfiche jackets	Aperture Cards	Total
Small	No.	5	3	10	3	1	22
	%	4.95%	2.97%	9.9%	2.97%	.99%	21.78%
Medium	No.	12	4	15	2	0	33
	%	11.88%	3.96%	14.85%	1.98%	0%	32.67%
Med.-Large	No.	6	0	5	1	0	12
	%	5.94%	0%	4.95%	.99%	0%	11.88%
Large	No.	7	4	8	2	3	24
	%	6.9%	3.96%	7.9%	1.98%	2.97%	23.76%
Totals	No.	30	11	38	8	4	97
	%	29.7%	10.89%	37.6%	7.9%	3.96%	96.0%

*Several companies reported the use of multiple media.

Two companies reported other types of microform storage not listed on the above table, but did not specify type of storage. Two additional companies failed to complete these particular questions.

Microform Retrieval Systems

Those surveyed were asked to check retrieval methods used--manual, automatic indexing system, or computer assisted (CAR). The responses are shown in Table 3. Among those organizations using microforms, the greatest number (N=45) checked manual retrieval systems. However, 17 organizations reported automatic retrieval systems.

Table 3

Microform Retrieval Systems

Company Size		Manual	Automated Indexing System	Computer Assisted
Small	No.	10	1	4
	%	9.9%	.99%	3.96%
Medium	No.	16	1	1
	%	15.8%	.99%	.99%
Med.-Large	No.	6	2	2
	%	5.94%	1.98%	1.98%
Large	No.	13	4	2
	%	12.87%	3.96%	1.98%
Totals	No.	45	8	9
	%	44.55%	7.9%	8.9%

CRT Terminals, Facsimile Equipment, Micrographics/Data Processing Technology

Data are sometimes stored in data bases and retrieved via CRT Terminals. Forty percent of the total respondents indicated the use of CRT Terminals for retrieval of information. Also, 30 percent of the total respondents indicated the use of facsimile equipment for transmission of information.

Today's technology also represents an interface between micrographics and data processing. Twenty-two percent of the respondents reported the use of systems that combine these technologies.

Storage Media--Active and Inactive Files

Inquiry was made regarding paper, microforms, and magnetics as media for records storage during the first 30 days after creation (active) and 90 days after date of creation (inactive). The data were first tabulated to show the size of companies, as well as responses to the media used, but size of companies are omitted from the tables because an inspection of the data revealed that small- to medium-sized companies are equal to the larger companies in their utilization of microforms and magnetics for both active and inactive records storage. Thus, Tables 4 and 5 can be more easily interpreted without the inclusion of company sizes.

Table 4

Storage and Retrieval Media

First 30 Days After Creation of Document

Media		1-20%	21-40%	41-80%	81-100%
Paper	No.	16	8	22	47
	%	15.8%	7.9%	21.78%	46.5%
Microforms	No.	19	11	6	9
	%	18.8%	10.89%	5.94%	8.9%
Magnetics (Data Base)	No.	17	4	7	11
	%	16.8%	3.96%	6.9%	10.89%

Table 5

Storage and Retrieval

Media Ninety Days After Creation

Media		1-20%	21-40%	41-80%	81-100%
Paper	No.	20	12	17	38
	%	19.8%	11.88%	16.8%	37.6%
Microforms	No.	10	6	21	11
	%	9.9%	5.94%	20.79%	10.89%
Magnetics (Data Base)	No.	14	4	8	10
	%	13.86%	3.96%	7.9%	9.9%

Tables 4 and 5 help illustrate the extent to which microform and magnetic media are utilized in today's offices. While it is likely that some documents will always be retained in paper form, 33 business firms (33 percent) reported the use of either microforms or computer-based (magnetics) storage for 41 to 100 percent of active records, and an even higher percentage (50 percent) indicated that 41 to 100 percent of inactive records are being stored in media other than paper. A further analysis of Tables 4 and 5 reveals that a slightly greater number of companies are using magnetic media for storage during the first 30 days (active) than after 90 days (inactive). However, the number of companies using microforms after 90 days was slightly higher than during the first 30 days.

Anticipated Records Storage and Retrieval for 1981

Forty-two percent of the respondents indicated that media other than paper would be used to store from 60 to 100 percent of business records by 1981. Responses have been grouped into four percentage categories as displayed in Table 6.

Table 6

Anticipated Methods for Records Storage

and Retrieval in 1981

Company Size		Microform or Magnetic Storage			
		0	10-39	40-59	60-100
Small	No.	9	4	7	8
	%	8.9%	3.96%	6.9%	7.9%
Medium	No.	0	4	1	18
	%	0%	3.96%	.99%	17.8%
Med.-Large	No.	6	6	1	5
	%	5.94%	5.94%	.99%	4.95%
Large	No.	1	6	1	11
	%	.99%	5.94%	.99%	10.89%
Totals	No.	16	20	10	42
	%	15.8%	19.8%	9.9%	41.5C%

In-House Microprocessing

The degree of commitment to the use of microforms may be somewhat determined by the number of organizations that have purchased cameras and COM processors/recorders. Of the total respondents who indicated the use of microforms (N=51), about 2/5 (41 percent) have in-house microprocessing hardware/software. Table 7 shows the number and percentage of companies that have invested in this equipment. As shown in Table 7, in-house microprocessing is utilized by all size companies.

Table 7

Utilization of In-House Microprocessing Hardware

Company Size		Camera	COM	Microform Dup. Equip.
Small	No.	3	2	4
	%	2.97%	1.98%	3.96%
Medium	No.	2	1	3
	%	1.98%	.99%	2.97%
Med.-Large	No.	4	0	0
	%	3.96%	0%	0%
Large	No.	7	4	3
	%	6.93%	3.96%	2.97%
Totals	No.	16	7	10
	%	15.8%	6.93%	9.9%

If in-house processing were not used, the respondents were asked to indicate how microforms were obtained. The following responses were given:

COM service processing

COM units in corporation offices

Computer services/centers

Data Centers

Data Corporation

Eastman Kodak

Kentucky Data Center

Microprocessing Center

Outside vendors

Outside vendors for COM

Service Bureaus

Southern Vital Records Services

State computer services

3M Processing Center

Management of Records

Respondents were asked to estimate separately the percent of time the "records manager" spent performing procedural duties (indexing and filing) and in performing managerial functions. Almost one-third

of the respondents did not answer these questions; however, Tables 8 and 9 illustrate the estimates of those who did respond. Nineteen respondents (18.8%) spent from 81-100 percent of their time performing managerial duties compared with three persons (2.97%) who spent from 81-100 percent in performing technical duties.

Table 8

Percent of Employee Time Spent

Maintaining Records Storage and Retrieval

Company Size		Percent 0	Percent 1-20	Percent 21-40	Percent 41-60	Percent 61-80	Percent 81-100
Small	No.	1	9	4	7	2	0
Medium	No.	1	8	4	2	0	3
Med.-Large	No.	1	9	3	0	1	0
Large	No.	1	9	1	3	3	0
Totals	No.	4	35	12	12	6	3
	%	3.96%	34.65%	11.88%	11.88%	5.94%	2.97%

Table 9

Percent of Employee Time

Spent in Managerial/Administrative Duties

Company Size		Percent 0	Percent 1-20	Percent 21-40	Percent 41-60	Percent 61-80	Percent 81-100
Small	No.	1	7	3	3	2	4
Medium	No.	0	5	1	5	1	5
Med.-Large	No.	1	5	2	0	1	5
Large	No.	0	2	6	2	2	5
Totals	No.	2	9	11	10	6	19
	%	1.98%	8.9%	10.89%	9.9%	5.94%	18.8%

To determine titles assigned for administrative personnel and "clerical" personnel associated with records management, respondents were asked to give the title of the administrative persons and the title of the persons responsible for storage and retrieval.

Twenty-seven percent of the companies reported that persons with the title of file clerk were employed. If the title of "file clerk" were not used, respondents were asked to provide the title of the person/persons responsible for performing storage and retrieval duties. The responsibilities seem to rest with a myriad of personnel. As shown by the array of titles listed below that have been assigned to persons accountable for information handling, a state of flux is implied in that the tasks have been incorporated into numerous existing departments without establishing a true identity for those accountable for records management per se. The titles are listed separately for those personnel responsible for administrative and clerical duties.

Administrative titles are as follows:

Accountant
Accounts File Clerk
Administrative Services
Administrator of Records
Assistant Cashier
Assistant On-Line Coordinator
Auditor
Business Manager
Cashiers
Comptroller
Computer Manager
Data Processing Manager
Director of Office Services
Executive Vice President
Head Bookkeeper
Internal Auditor
Inventory Controller
Manager of Data Center

Office Manager
Office Services Administrator
Operations Manager
Operations Officer
Proof, Transit, and Bookkeeping Supervisor
Purchasing Agent
Records Control Supervisor
Records Supervisor
Secretary
Treasurer
Vice President

Titles of persons responsible for performing storage and retrieval tasks are:

Accounting Clerk
Accounts Payable Clerk
Administrator of Records
Assistant Cashier
Bookkeeper
Computer Operator
Customer Services Representative
Data Processing Clerk
Department Clerk
Executive Vice President
General Clerk
General Office Secretary
Head Teller
Internal Auditor
Mail and Records Clerk
Microfilm Technician
On-Line Coordinator
Records Center Clerk
Records Clerk
Records Supervisor
Secretary
Tellers
Treasurer

Electronic Funds Transfer

Credit cards, terminal units, and computers make possible a cashless money delivery system for business transactions. Thirty-six percent of the respondents indicated the use of paperless money delivery. Twenty-five of the firms were financial (banks/savings & loans) and ten were

non-financial institutions. One returned questionnaire did not indicate the firm name, and one organization did not respond to the question regarding electronic funds transfer.

Reprographics

Some years ago, stencil and spirit duplicating processes constituted the bulk of copymaking. Today's reprographics services, on the other hand, may include both duplicating and photocopying processes. Because of advances in the technologies, photographic and telecommunication processes have been increasing in their capabilities and usage.

An analysis of the information pertaining to the utilization of reprographics is illustrated in Table 10.

Table 10

Duplicating and Photocopying Processes

Company Size		Stencil	Spirit	Offset	Photocopy
Small	No.	10	2	5	37
	%	9.9%	1.98%	4.95%	36.6%
Medium	No.	6	3	2	25
	%	5.9%	2.97%	1.98%	24.75%
Med.-Large	No.	2	1	1	18
	%	1.98%	.99%	.99%	17.8%
Large	No.	5	2	6	20
	%	4.95%	1.98%	5.9%	19.8%
Totals	No.	23	8	14	94
	%	22.77%	7.9%	13.86%	93.069%

Obviously, these data show several companies are using multiple media for the copy/duplicating processes, but a very high percentage of the respondents (93 percent) indicated the use of photocopy equipment.

On-Site Observations

The investigators traveled to Louisville, Kentucky, during May, 1980, to observe office equipment and methods/procedures for information handling at two company locations.

Liberty National Bank

Mr. Douglas Meredith, Vice President of Retail Loan Services, Liberty National Bank, explained the use of the AB Dick/Scott System 200 that was being used in his particular department. The System 200 is equipped with advanced microimaging capabilities that produce sharp images via microfiche. The file film images are nonerasable, suitable for long-time storage, and can be processed in eight seconds. The system is also equipped with a microdeveloper and viewer-verifier.

The arrangement at Liberty National provides a master file for storage of microfiche. A file film need never leave the control area. Authorized requests for a duplicate microcopy of an entire file can be made in moments and hard copies of selected documents are made when justified. Automatic fast retrieval from the master file is made possible by means of notches visible on the film jacket. After the film has been removed from the fiche center (master file), it is placed on a tray that provides computer assistance in restoring the film jacket in its proper location within the fiche center. Updated documents can be voided with the image remaining in place for audit trail use. The fiche center contains all units, deletions, and corrections. Thus, the System 200 provides for a complete history file and audit trail for authorized reference.

The system was rather new for Retail Loan Services, but it appeared to be very functional. With the use of this new system, employees were reported to have improved their attitude toward the routine of handling records. Also, Mr. Meredith estimated that only 8 to 10 percent of paper records are being retained. These are legal documents.

Louisville Bedding Company

At the invitation of Mr. Harold Forrester, Jr., Manager, Administrative Systems and Procedures, the Louisville Bedding Company Distribution Center provided an on-site visitation for the authors.

During May, 1980, the company was in its second month of conversion from open-shelf filing to a computer-based system. Approximately 750,000 to 1,000,000 documents are stored each year. Following a one-year feasibility study, the company installed a 3M fiche system interfaced with Univac computers that had been in operation for four years at the distribution center.

The Customer Service Department is responsible for the storage and retrieval of data. A "Customer Service Representative" is the title designating the individual responsible for retrieving information; however, title changes are anticipated in the near future.

Using 3M equipment, in-house processing of microrecords is utilized. Manual and automatic retrieval systems are used and search and retrieval time is no longer than 30 seconds. The CRT printer and microimage reader/printer provide hard copies when necessary.

Moving from paper files to electronic filing provided additional office space. One large room that formerly stored paper files was being converted into an office. As feedback regarding the capabilities of the system was

provided throughtout the period of time involving the feasibility study and the installation of the equipment, most of the clerical workers eagerly accepted the system.

Future plans include the utilization of a data-print minicomputer in addition to the CRT when communicating with branch offices and also the possibility of a word processing center interfaced with the computer.

SUMMARY, CONCLUSIONS, AND RECOMMENATIONS

Advanced electronic technologies during the 70's brought about pronounced changes in routines for handling information, thus creating a need for an assessment of current methods, procedures, and equipment used throughout the state of Kentucky and in two neighboring cities. This study focused on storage and retrieval hardware/software, microimage processing equipment, electronic funds transfer, and reprographics.

The procedures used for making this assessment consisted of a pilot test of the procedures and a randomly selected sample from listings in the Dun and Bradstreet Million Dollar Directory, 1979. Data were tabulated from 101 (71 percent) of the survey instruments mailed.

Summary of Findings

While several types of storage equipment are used, the traditional vertical file was the predominate style in all size companies. However, the frequency of utilizing lateral files, two-drawer file units, open/shut binders, and open-space filing reflect environmental transformations, as well as a change in information records handling.

The traditional paper medium for records storage and retrieval has shifted to include both microforms and magnetic (computer-based) storage. Over half (51 percent) of the companies surveyed indicated the use of micrographics, with microfiche being the most popular format. Forty-two percent of the small companies (1-25 employees) and 70 percent of the large companies (over 100 employees) used microforms. Manual retrieval of microforms was reported by forty-five companies, and seventeen reported the use of automatic retrieval systems.

Approximately two-fifths of the respondents had installed in-house microprocessing hardware/software, including cameras, COM, and microform duplicating equipment. Additionally, 17 outside agencies were named as sources for securing microprocessing services. Utilization of in-house microprocessing was reported by nine small, six medium, four medium-large, and fourteen large companies. The commitment to the use of micrographics, therefore, is not limited by company size. In addition to micrographics, magnetics are utilized by the small to medium-size company equal to or greater than the larger companies.

Twenty-two percent of the respondents reported the use of systems that interface micrographics and data processing. Forty percent said CRT terminals were used for retrieval of information, and 30 percent used facsimile equipment for transmission of information.

Micrographics and magnetics were utilized for active (first 30 days after creation) and inactive (90 days after creation) records. Thirty-three percent of the respondents reported the use of micrographics and magnetics for storing from 41 to 100 percent of active information and fifty percent reported the use of the same media for storing inactive records.

Respondents projected that 42 percent anticipate the use of media other than paper for storing from 60 to 100 percent of business records by 1981.

The managerial and clerical functions were investigated separately. No one title was used to identify either category; rather, 19 administrative titles were shown and 23 clerical titles listed for persons responsible for performing storage and retrieval duties. Furthermore, the variety of

titles assigned suggest that the information handling processes have been incorporated into existing departments.

Electronic funds transfer is being utilized by banking institutions and non-financial organizations as well. Twenty-five banks/savings and loans institutions and ten non-financial companies reported the use of electronic funds transfer.

In response to the inquiry about the use of photocopy, offset, stencil, or spirit duplicating; photocopy equipment was by far the most popular (93 percent). Several companies reported the use of multiple media.

Conclusions

Based on the findings of this study and within the boundaries of the population surveyed, the following conclusions are presented:

1. Electronic advances are decreasing the amount of paper stored, and the predictions for 1981 seem to confirm a continued trend toward a "paperless" office. No data exists at present, however, to indicate that business firms are approaching a completely paperless office.

2. Both microforms and magnetics (magnetic tape, floppy disks, computer tape, and video tape) are sources for storage and retrieval of data in all size companies.

3. Computer Assisted Retrieval (CAR) systems are being utilized as evidenced by information received from on-site observations and from respondents surveyed.

4. Lateral file storage cabinets, as contrasted to vertical file units, seem to represent a trend for paper stored in cabinets.

5. Lateral file storage cabinets, as contrasted to vertical file units, seem to represent a trend for paper stored in cabinets.

6. Facsimile equipment appears to be a viable component of the total information system.

7. Computer Output Microfilm (COM) units and cameras are sources of in-house microprocessing equipment used in today's offices.

8. Companies are organizing differently for today's handling of information. This was evidenced by the myriad of titles assigned to personnel responsible for information processing.

9. Electronic funds transfer has made progressive steps toward the execution of transactions for both financial and nonfinancial institutions.

10. Photocopy equipment is by far the predominate copying/duplicating process in all size companies.

Recommendations

The following recommendations are made to the Kentucky Bureau of Vocational Education:

1. Disseminate information in this study to Kentucky teachers and curriculum planners.

2. Support workshops/in-service education relating to concepts and terminology for a better understanding of the total information management process.

3. Suggest that records management be taught as a component of the total information system.

4. Urge teachers and curriculum planners to immediately incorporate into their records management/filing course content information that will provide an understanding of micrographic and magnetics as methods for storage and retrieval of information.

5. Encourage teachers and curriculum planners to take field trips for on-site observations of information handling methods and procedures. Microforms and on-line terminals are often available at local establishments such as libraries, medical facilities, and banking institutions.

6. Develop professionalism among secondary teachers and teacher educators by encouraging active participation in professional organizations that provide opportunities for continuing education in information records management--organizations such as American Records Management Association, International Word Processing, and State and National Business Education Associations.

7. Inform teachers and curriculum planners to consider less emphasis on filing rules and more emphasis on the management function of information handling.

8. De-emphasize teaching the skills for operating stencil, offset, and spririt equipment.

9. Continue to support research to stay abreast of the changing office environment.

Appendix A

Copy of Questionnaire Form

ASSESSMENT OF RECORDS MANAGEMENT

Paper Files

Please check either yes or no to the following questions.

Are your paper files stored in

	Yes	No	
1.	___	___	four or five-drawer vertical file cabinets?
2.	___	___	four or five-drawer lateral file cabinets?
3.	___	___	two-drawer file cabinets?
4.	___	___	on-track or wheels for easy movement?
5.	___	___	open-space file shelves or cabinets?
6.	___	___	open/shut binders?
7.	___	___	power files (rotary and/or shelves)?
8.	___	___	other _____

Microforms

	Yes	No	
9.	___	___	Do you use microforms in your office? If yes, are the majority of your microforms stored via
10.	___	___	reel microfilm?
11.	___	___	microfilm cartridges and cassettes?
12.	___	___	microfiche?
13.	___	___	microfiche or microfilm jackets?
14.	___	___	aperture cards?
15.	___	___	other_____

22. What microform retrieval systems are being used?

22A. _____Manual

22B. _____Automated indexing system

22C. _____Computer assisted
Please explain_____

22D. _____Other_____

Miscellaneous Information

	Yes	No	
23.	___	___	Does your company use CRT Terminals for retrieval of information stored on tape or disks?
24.	___	___	Does your company use facsimile equipment for records transmission?
25.	___	___	Does your company utilize a combination system that encompasses micrographics, data processing, and word processing technologies?

25A. Other technologies used for communicating information or for records storage and retrieval_____

26A. By the end of 1981, what percentage of your records do you anticipate being stored and retrieved by methods other than paper?

___100% ___90% ___80% ___70% ___60% ___50% ___40% ___30% ___20% ___10% ___0%

26B. List other method/s anticipated_____

27. Are the following reproducing methods utilized in your office?

	Yes	No	
27A.	___	___	Stencil
27B.	___	___	Spirit
27C.	___	___	Offset
27D.	___	___	Photocopy

27E. List name of other duplicating processes used_____

_____

16. Please indicate the manner in which your records are stored and retrieved during the first 30 days after creation.

Meduim	Percent				
	0	1-20	21-40	41-80	81-100
16A. Paper					
16B. Microfilm or Microfiche					
16C. Computer based terminal					

17. Please indicate the manner in which your records are stored and retrieved after the first 90 days following creation.

Meduim	Percent				
	0	1-20	21-40	41-80	81-100
17A. Paper					
17B. Microfilm or Microfiche					
17C. Computer based terminal					

	Yes	No	
20.	___	___	Do you have space for tape or disk storage?
21.	___	___	Do you have in-house microprocessing?

21A. If yes, please check the process used

1. ____Camera Processors
2. ____Microform duplicating films and equipment
3. ____COM (Computer-output Microfilm) hardware
4. ____Other_____

21B. If no, how do you obtain your microfilm or microfiche?_____

_____

Yes No

28A. ___ ___ Does your company use paperless money delivery (electronic funds transfer)?

28B. If yes, who are the participants?

1. ___ Your company and your company bank
   or
2. ___ Your company and customer and/or employee bank
   or
3. ___ Both

29. Give the TITLE of the administrative person responsible for storage and retrieval of records._____

30. Give a percentage estimate of the amount of time that your "manager" of records spends

30A. _____% maintaining the information storage and retrieval system (indexing, filing, and storage)

30B. _____% performing managerial types of duties (personnel supervision, planning, etc.)

Yes No

31A. ___ ___ Do you employ persons with the title of file clerk?

31B. If no, state the title of the person who is responsible for performing storage and retrieval duties._____

32. _____ About how many people work at your company location?

33. ___Yes ___No Would you like to have a copy of the results of our study sent to you?

_____
COMPANY NAME

_____
CITY AND STATE

Note: Your company name will in no way be revealed when reporting data collected in this study.

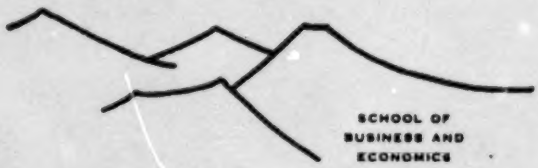
Appendix B

Copy of Follow Up Letters

MOREHEAD STATE UNIVERSITY

32

MOREHEAD, KENTUCKY 40351



March 1, 1980

Dear Administrator of Records

We recently sent you a questionnaire asking for information to help us assess the state of the art in records management. So that you need not look for the original questionnaire, we are sending another hoping that you can find time to help us in our efforts to make our office education courses relevant to the needs of business.

If possible, we would like to have the completed questionnaire before March 15.

Anna M. Burford, Coordinator
Vocational Business Education

Helen A. Northcutt, Assistant Professor
Business Education

mae

Enclosures

March 26, 1980

Dear Records Administrator:

Remember us? We're the ones who sent you the questionnaire about how your records are handled. Please don't be concerned if your office is not using microfilm or data-base storage. We are only trying to learn the state of the art in records management to determine if adjustments need to be made in our school curricula.

Won't you take a few moments to complete the questionnaire we sent you about three weeks ago. If you have misplaced it, please let us know and we will gladly send another. Thanks for your help.

A. Burford and Helen Northcutt
UPO 1285, Morehead State Univ.
Morehead, Kentucky

Appendix C

Storage Equipment Used for Paper Records

Table 11

Storage Equipment Used for Paper Records

Company Size		Four/five dr. vertical	Four/five dr. lateral	Two-drawer cabinets	On-track/ wheels	Open-space shelves	Open/shut binders	Power files
Small	No.	30	9	19	9	12	17	5
	%	29.7%	8.9%	18.8%	8.9%	11.88%	16.8%	4.95%
Medium	No.	25	12	16	11	20	20	12
	%	24.75%	11.88%	15.8%	10.89%	19.8%	19.8%	11.88%
Med.-Large	No.	15	6	9	6	5	7	4
	%	14.85%	5.9%	8.9%	5.9%	4.95%	6.9%	3.96%
Large	No.	18	8	14	5	11	13	6
	%	17.8%	7.9%	13.86%	4.95%	10.89%	12.8%	5.9%
Totals	No.	88	35	58	31	48	57	27
	%	87.1%	34.65%	57.4%	30.69%	47.5%	56.4%	26.7%